



# UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE  
United States Patent and Trademark Office  
Address: COMMISSIONER FOR PATENTS  
P.O. Box 1450  
Alexandria, Virginia 22313-1450  
[www.uspto.gov](http://www.uspto.gov)

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/551,436	07/17/2006	Dov Avni	P-4333-US3	4457
49443	7590	03/13/2007	EXAMINER	
PEARL COHEN ZEDEK LATZER, LLP 1500 BROADWAY 12TH FLOOR NEW YORK, NY 10036			DIEP, NHON THANH	
		ART UNIT	PAPER NUMBER	
		2621		
SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE		
3 MONTHS	03/13/2007	PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/551,436	AVNI ET AL.	
	Examiner Nhon T. Diep	Art Unit 2621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) Responsive to communication(s) filed on 29 September 2005.
- 2a) This action is FINAL.                    2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) Claim(s) 39-47 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 39-47 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on 29 September 2005 is/are: a) accepted or b) objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)  | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)   | Paper No(s)/Mail Date. _____                                      |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/12/2006</u> . | 5) <input type="checkbox"/> Notice of Informal Patent Application |
|  | 6) <input type="checkbox"/> Other: _____                          |

## **DETAILED ACTION**

### ***Claim Objections***

1. Claim 44 is objected to because of the following informalities: Regarding to claim 44, lines 6-7, which appears to be a typo error (copying of lines 4-5). Appropriate correction is required.

### ***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 39-41, 43-46 and 48-49 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 6,184,922 B1), in view of Fukuhara et al (US 6,501,862 B1).

As for claim 1, in the preamble, applicants claims "An in vivo imaging system comprising:...". In the tenth edition of Merriam-Webster's Dictionary, the term in vivo is defined as "in the living body of a plant or animal", while the definition of ab endoscope is "a means for viewing the interior of a hollow organ". The examiner would like to point out that an in vivo device and an endoscope are one in the same. That to say, each of the above two devices are used to view the interior of a body. Saito et al discloses an endoscope imaging system comprising the same in vivo imaging system comprising: an imager to receives a plurality of input data corresponding to an image (fig. 2, el. 32); a transmitter to transmit a selection of said input data (fig. 3, el. 54 and its output); a

receiver to receive said selection of input data; and a processor to reconstructed data based on said selection of input data (col. 7, ln. 36-40) as specified in claims 39 and 43; wherein said imager is to produce said selection of said input data (fig. 3, el. 54 and its output is a result of a selection (coding) process) as specified in claim 40; comprising a display for viewing a display image corresponding to said selection of input data and said reconstructed data (fig. 2, el. 7) as specified in claim 41; wherein the controller is to post process the interpolated image data (fig. 14, el. 337) as specified in claim 46; the controller is to pre-process by a method selected from a group including applying error correction code, reducing noise, gradient evaluation, and detecting edges (correlation double sampling of the pre-process el. 333 of fig. 14 reduces noise) as specified in claim 48; and wherein the controller is to generate reconstructed data based on said selected image data (fig. 14, el 338) as specified in claim 49. It is noted that Saito et al does not particularly disclose that the reconstruction process involves interpolation, linear interpolation or produce additional image data as specified in claims 39, 43- 44, 45. Fukuhara et al, in fig. 9, teaches the process of encoding original image by decimating and then performing interpolation to reconstruct encoded image to obtain original image and that interpolation of image produces additional image data. Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to encode original image by decimating and to reconstructing encoded image by interpolation as taught by Fukuhara et al. Doing so would help to reduce bandwidth for transmission while simplifying the encoding process.

4. Claims 42 and 50 are rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 6,184,922 B1), in view of Fukuhara et al (US 6,501,862 B1) and further in view of Iddan et al (cited by the applicants).

As applied to claims 39 and 43 above, it is noted that the combination of Saito et al and Fukuhara et al does not particularly disclose that the imager and the transmitter are included in a swallowable capsule. Iddan et al teaches that an in-vivo camera system wherein the video camera is part of a capsule, which may be ingested (Abstract). Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the system of Saito et al and Fukuhara et al by providing an endoscope or an in-vivo device to image the intestinal tract of a living being by way of non-invasive and less obstructive procedures

5. Claim 47 is rejected under 35 U.S.C. 103(a) as being unpatentable over Saito et al (US 6,184,922 B1), in view of Fukuhara et al (US 6,501,862 B1) and further in view of He et al (US 6,600,517 B1).

As applied to claim 46 above, it is noted that the combination of Saito et al and Fukuhara et al does not particularly disclose that the controller is to post process by a method selected from a group including: image sharpening, color suppression, intensity adjustment, convolution and applying a median filter as specified in claim 47. He et al teaches Post-processing circuitry is capable of carrying out several different types of video signal processing. Exemplary video signal processing functions performed by post-processing circuitry may include: noise reduction algorithms, color correction, scaling, scan-rate conversion, adaptive feature enhancement, and other adaptive object

Art Unit: 2621

based algorithms. In an advantageous embodiment, post-processing circuitry 140 further comprises image sharpening circuitry capable of performing noise level adaptive sharpness enhancement (fig. 5 and col. 4, ln. 64 - col. 5, ln. 7)

***Conclusion***

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- a. Geshwind (US 6,661,463) discloses methods and devices for time varying selection and arrangement of data points.
- b. Matsuzaki et al (US 6,492,982) discloses an image display control method and apparatus.

7. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nhon T. Diep whose telephone number is 571-272-7328. The examiner can normally be reached on m-f.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mehrdad Dastouri can be reached on 571-272-7418. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 2621

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

ND  
2/15/2007



NHON DIEP  
PRIMARY EXAMINER